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10/508768

DT04 Rec'd PCT/PTO 22 SEP 2004

<110> Omnigene Bioproducts, Inc., et al.

<120> METHODS AND ORGANISMS FOR PRODUCTION OF B6 VITAMERS

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<150> 60/367863

<151> 2002-03-25

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BEST AVAILABLE COPY

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<213> Artificial Sequence

<220>

<223> promoter sequence

<400> 9

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<210> 13
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<400> 19
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<210> 20
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 <213> *Bacillus subtilis*

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 <212> PRT
 <213> *Bacillus subtilis*

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 35 40 45
 Ala Asp Ile Arg Ala Ala Gly Gly Val Ala Arg Met Ala Asp Pro Thr
 50 55 60
 Ile Val Glu Glu Val Met Asn Ala Val Ser Ile Pro Val Met Ala Lys
 65 70 75 80
 Ala Arg Ile Gly His Ile Val Glu Ala Arg Val Leu Glu Ala Met Gly
 85 90 95
 Val Asp Tyr Ile Asp Glu Ser Glu Val Leu Thr Pro Ala Asp Glu Glu
 100 105 110
 Phe His Leu Asn Lys Asn Glu Tyr Thr Val Pro Phe Val Cys Gly Cys
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 Arg Asp Leu Gly Glu Ala Thr Arg Arg Ile Ala Glu Gly Ala Ser Met
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 Leu Arg Thr Lys Gly Glu Pro Gly Thr Gly Asn Ile Val Glu Ala Val
 145 150 155 160
 Arg His Met Arg Lys Val Asn Ala Gln Val Arg Lys Val Val Ala Met
 165 170 175
 Ser Glu Asp Glu Leu Met Thr Glu Ala Lys Asn Leu Gly Ala Pro Tyr
 180 185 190

Glu Leu Leu Leu Gln Ile Lys Lys Asp Gly Lys Leu Pro Val Val Asn
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 Phe Ala Ala Gly Gly Val Ala Thr Pro Ala Asp Ala Ala Leu Met Met
 210 215 220
 Gln Leu Gly Ala Asp Gly Val Phe Val Gly Ser Gly Ile Phe Lys Ser
 225 230 235 240
 Asp Asn Pro Ala Lys Phe Ala Lys Ala Ile Val Glu Ala Thr Thr His
 245 250 255
 Phe Thr Asp Tyr Lys Leu Ile Ala Glu Leu Ser Lys Glu Leu Gly Thr
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<210> 22

<211> 988

<212> DNA

<213> *Bacillus subtilis*

<400> 22

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<210> 23

<211> 196

<212> PRT

<213> *Bacillus subtilis*

<400> 23

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 35 40 45
 Ser Thr Thr Met Arg Arg Leu Ile Asp Thr Tyr Gln Phe Met Glu Pro
 50 55 60
 Leu Arg Glu Phe Ala Ala Gln Gly Lys Pro Met Phe Gly Thr Cys Ala
 65 70 75 80
 Gly Leu Ile Ile Leu Ala Lys Glu Ile Ala Gly Ser Asp Asn Pro His
 85 90 95

Leu Gly Leu Leu Asn Val Val Val Glu Arg Asn Ser Phe Gly Arg Gln
 100 105 110
 Val Asp Ser Phe Glu Ala Asp Leu Thr Ile Lys Gly Leu Asp Glu Pro
 115 120 125
 Phe Thr Gly Val Phe Ile Arg Ala Pro His Ile Leu Glu Ala Gly Glu
 130 135 140
 Asn Val Glu Val Leu Ser Glu His Asn Gly Arg Ile Val Ala Ala Lys
 145 150 155 160
 Gln Gly Gln Phe Leu Gly Cys Ser Phe His Pro Glu Leu Thr Glu Asp
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 Lys Ala Leu Val
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<210> 24

<211> 990

<212> DNA

<213> Escherichia coli

<400> 24

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<210> 25

<211> 329

<212> PRT

<213> Escherichia coli

<400> 25

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 35 40 45
 Met Leu Gly Leu Pro Leu Thr Leu Arg Pro Tyr Ser Pro Asn Ser Pro
 50 55 60
 Ala Gln Pro Gln Thr Ala Gly Thr Leu Thr Leu Leu Pro Val Ala Leu
 65 70 75 80
 Arg Ala Pro Val Thr Ala Gly Gln Leu Ala Val Glu Asn Gly His Tyr
 85 90 95

Val Val Glu Thr Leu Ala Arg Ala Cys Asp Gly Cys Leu Asn Gly Glu
 100 105 110
 Phe Ala Ala Leu Ile Thr Gly Pro Val His Lys Gly Val Ile Asn Asp
 115 120 125
 Ala Gly Ile Pro Phe Thr Gly His Thr Glu Phe Phe Glu Glu Arg Ser
 130 135 140
 Gln Ala Lys Lys Val Val Met Met Leu Ala Thr Glu Glu Leu Arg Val
 145 150 155 160
 Ala Leu Ala Thr Thr His Leu Pro Leu Arg Asp Ile Ala Asp Ala Ile
 165 170 175
 Thr Pro Ala Leu Leu His Glu Val Ile Ala Ile Leu His His Asp Leu
 180 185 190
 Arg Thr Lys Phe Gly Ile Ala Glu Pro Arg Ile Leu Val Cys Gly Leu
 195 200 205
 Asn Pro His Ala Gly Glu Gly Gly His Met Gly Thr Glu Glu Ile Asp
 210 215 220
 Thr Ile Ile Pro Val Leu Asn Glu Leu Arg Ala Gln Gly Met Lys Leu
 225 230 235 240
 Asn Gly Pro Leu Pro Ala Asp Thr Leu Phe Gln Pro Lys Tyr Leu Asp
 245 250 255
 Asn Ala Asp Ala Val Leu Ala Met Tyr His Asp Gln Gly Leu Pro Val
 260 265 270
 Leu Lys Tyr Gln Gly Phe Gly Arg Gly Val Asn Ile Thr Leu Gly Leu
 275 280 285
 Pro Phe Ile Arg Thr Ser Val Asp His Gly Thr Ala Leu Glu Leu Ala
 290 295 300
 Gly Arg Gly Lys Ala Asp Val Gly Ser Phe Ile Thr Ala Leu Asn Leu
 305 310 315 320
 Ala Ile Lys Met Ile Val Asn Thr Gln
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<210> 26

<211> 732

<212> DNA

<213> Escherichia coli

<400> 26

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 aaagccattg ccgccatccc tgagatgcat gaactgaata tcggatcatgc cattattggt 660
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 gcgcgtggct aa 732

<210> 27

<211> 243

<212> PRT

<213> Escherichia coli

<400> 27

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	35	40	45
Asp Arg Arg	His Ile Thr Asp Arg Asp	Val Arg Ile Leu Arg Gln Thr	
	50	55	60
Leu Asp Thr	Arg Met Asn Leu Glu Met Ala	Val Thr Glu Glu Met Leu	
	65	70	75
Ala Ile Ala	Val Glu Thr Lys Pro His Phe	Cys Cys Leu Val Pro Glu	
	85	90	95
Lys Arg Gln	Glu Val Thr Thr Glu Gly	Gly Leu Asp Val Ala Gly Gln	
	100	105	110
Arg Asp Lys	Met Arg Asp Ala Cys Lys Arg	Leu Ala Asp Ala Gly Ile	
	115	120	125
Gln Val Ser	Leu Phe Ile Asp Ala Asp	Glu Glu Gln Ile Lys Ala Ala	
	130	135	140
Ala Glu Val	Gly Ala Pro Phe Ile Glu Ile	His Thr Gly Cys Tyr Ala	
	145	150	155
Asp Ala Lys	Thr Asp Ala Glu Gln Ala Gln	Glu Leu Ala Arg Ile Ala	
	165	170	175
Lys Ala Ala	Thr Phe Ala Ala Ser Leu Gly	Leu Lys Val Asn Ala Gly	
	180	185	190
His Gly Leu	Thr Tyr His Asn Val Lys Ala	Ile Ala Ala Ile Pro Glu	
	195	200	205
Met His Glu	Leu Asn Ile Gly His Ala Ile	Ile Gly Arg Ala Val Met	
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Thr Gly Leu	Lys Asp Ala Val Ala Glu Met	Lys Arg Leu Met Leu Glu	
	225	230	235
Ala Arg Gly			240

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